

EXHIBIT 19

REDACTED

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION**

THE STATE OF TEXAS, et al.,

Plaintiffs,

v.

GOOGLE LLC,

Defendant.

§
§
§
§
§
§
§
§

Civil Action No. 4:20-cv-00957-SDJ

**DECLARATION OF NITISH KORULA IN SUPPORT OF
GOOGLE'S MOTION FOR SUMMARY JUDGMENT**

I, Nitish Korula, pursuant to 28 U.S.C. § 1746, hereby declare as follows:

1. I have worked for Google LLC (“Google”) for approximately fourteen years. From July 2016 through December 2021, I was a member of and led engineering teams on what is referred to as the “sell-side” of Google’s display advertising business. Those teams were responsible for developing Google products, including Google Ad Manager, that allow publishers to sell display advertising inventory. I am currently an Engineering Director at Google based in the company’s office in New York City. My current responsibilities include managing engineering teams working on Google Assistant.

2. Based on my personal experience with and knowledge of Google’s sell-side display advertising products, I describe below the material features of those products and my understanding of how they generally functioned up to the time that I transferred out of the sell-side engineering role in December 2021. Except as otherwise specifically indicated, the descriptions contained in this declaration do not cover or otherwise address product changes made after December 2021.

3. Google offers three products on the sell-side of its display advertising business: Google AdSense, Google AdMob, and Google Ad Manager.

4. Google AdSense (also referred to as “AdSense for Content”) is a display advertising product typically used by publishers who want to focus more on the creation of content for their web properties and less on the details of selling display advertising inventory on those web properties. AdSense allows publishers to have Google manage the monetization of their inventory so that they can focus on content creation.

5. AdSense serves a variety of ad formats—including traditional web banner ads, native ads, and video ads—on a variety of platforms, including websites, HTML5 games, and mobile apps. Publishers using AdSense get access to Google Ads, DV360, Authorized Buyers (such as Criteo, MediaMath, AppNexus, Trade Desk, etc.), which are the same sources of Google demand made available to publishers through Google Ad Manager.

6. Google AdMob is a display advertising tool that helps app developers sell ad space on their apps. Similarly, Google Ad Manager provides the ability for publishers to sell ad space on their apps.

7. Google Ad Manager combines functionalities that were previously offered as the publisher ad server DoubleClick for Publishers (“DFP”) and the ad exchange AdX. Google Ad Manager also provides additional features made possible as a result of that combination. Advertising technology (“ad tech”) tools like Google Ad Manager facilitate a sequence of actions that take place in real time when a user visits a publisher’s website or mobile app: an ad request is sent to Google, which decides whether the ad request is subject to one of the publisher’s guaranteed direct deals and/or whether it can be filled by way of an indirect programmatic auction. If an auction is appropriate, Google Ad Manager sends the bid request to buyers, receives any bids in

response to that request, runs an auction, applies various optimizations, and ultimately returns an ad to the user's device. All of this is accomplished in a few hundred milliseconds.

AdX Auction

8. Publishers that sign up for Google Ad Manager are not forced to use its AdX ad exchange functionality. In fact, publishers that sign up for Google Ad Manager are not automatically given access to AdX. Instead, publishers must go through a vetting process before they are given access to AdX. The substantial majority of Google Ad Manager publishers never receive access. Google vets publishers before allowing them to sell inventory through AdX due to the role AdX plays in matching publishers with advertisers. When using Google Ad Manager's direct ad serving functionality in DFP, publishers enter into direct relationships with advertisers ("direct deals"). As a result, both the publisher and advertiser can make their own decisions about the other's fitness as a business partner. By contrast, when using AdX for indirect sales, Google serves as the facilitator of matches between publishers and advertisers. Those publishers and advertisers may not necessarily have preexisting relationships with one another. In that setting, Google seeks to ensure that the publishers it makes accessible to advertisers via AdX offer safe, high quality inventory that complies with Google's policies. As a result, only a minority of publishers using the ad serving functionality in Google Ad Manager (DFP) receive access to AdX.

9. Google also vets the Authorized Buyers to which it provides access to AdX. After going through that vetting process, Authorized Buyers are approved to bid on the inventory that publishers have made available on AdX. Google's buying tools, Google Ads and DV360, are able to bid on this same inventory. AdX has hundreds of Authorized Buyers, including Criteo, AppNexus, The Trade Desk, Amazon, and MediaMath. Authorized Buyers submit bids to the AdX

auction on a CPM basis. Google has no information on the cost basis by which those Authorized Buyers charge their advertiser customers.

10. Google—in its role operating AdX—receives a revenue share at the end of every auction. Google’s revenue share is a percentage of the auction closing price paid by advertisers for ads appearing on the publisher’s properties. Since 2017 (and up to at least December 2021), Google determined the highest bid in AdX auctions by comparing bids to each other on a “net basis”—that is, after deducting AdX’s revenue share from the bids that buyers submitted to AdX.¹

11. Before September 2019, AdX ran a second-price auction. In a second-price auction, the buyer with the highest bid wins the auction (as long as its bid is above the reserve price). However, instead of paying the amount of its own bid, the winner pays the maximum of the applicable reserve price and the second-highest bid.² By contrast, in a first-price auction, while the buyer with the highest bid still wins the auction (as long as its bid is above the reserve price), that buyer pays the amount of its own bid instead of some other, lower amount. Whether an auction is a first-price or second-price auction can affect the way buyers bid. Second-price auctions are thought to incentivize buyers to bid their “true value” by protecting them from overpaying because, if a bidder wins, it only has to pay the value of the second highest bid or the applicable reserve price, not the amount of its own bid. First-price auctions do not offer this protection. In a first-price auction, the winning bidder must pay the full amount of its bid. Bidders in first-price auctions therefore have to consider to what extent they can bid lower than their true value without losing the auction. Bidding below the buyer’s true value is sometimes referred to as “bid-shading”.

¹ Before 2017, the implementation logic was more complex, but it had an equivalent effect: the highest bid net of take rate would win the AdX auction if it were above the applicable reserve price.

² In certain circumstances in which the highest and second-highest bids in AdX are sufficiently close to one another, their ranking may be randomly determined.

12. Accordingly, prior to September 2019, when AdX ran a second-price auction, Google would generally charge the winning bidder the higher of (a) the second-highest bid in AdX or (b) the reserve price.³ The ad associated with the highest bid would not serve unless that bid also exceeded the AdX reserve price. To determine whether the highest bid exceeded the AdX reserve price, Google would compare the highest bid net of AdX's revenue share to the AdX reserve price and would serve an AdX ad only where the highest bid—net of AdX's revenue share—exceeded the AdX reserve price.

13. In the mid-to-late-2010s, many exchanges moved from second-price to first-price auctions. In September 2019, Google completed its own transition from a “second-price” auction to a unified “first-price” auction (*i.e.*, the Unified First Price Auction) for the Ad Manager auction. Google's move to a Unified First Price Auction aligned with the broader industry, as most other auctions were already partially or completely first-price auctions.

14. Up until at least December 2021, a publisher using Google Ad Manager could exclude AdX from the sale process altogether. AdX has no default access to publishers' inventory, even for those publishers that receive access to AdX. Publishers must affirmatively take the additional step of creating an AdX line item or yield group in order to make their inventory eligible for the AdX auction. Publishers can choose to enable AdX for all or for only a portion of their inventory. And, if a publisher does not consciously take action to enable access to AdX, Google Ad Manager will not call AdX at all.

15. In the time period before Header Bidding gained popularity (approximately 2009 through 2014), a [REDACTED]

[REDACTED] Google declined those requests for two primary reasons.

³ During the period when Dynamic Revenue Sharing v.2 was in effect, on a small minority of auctions, Google would charge the winning bidder more to offset discounts on the revenue share that were provided in previous auctions.

First, [REDACTED]
[REDACTED]⁴ Second,
[REDACTED]
[REDACTED]

16. AdX does not return real-time bids to DFP or any third-party ad server. AdX was originally designed at a time when no ad exchanges were able to submit real-time bids. As a result, many core pieces of AdX's functionality are built on that original design in which, if the AdX exchange was called and had a bidder that beat the applicable floor price, that bidder would win and its ad would serve. Changing that fundamental characteristic of AdX's functionality would require years of work by a team of Google engineers. Instead of devoting resources to radically revise AdX's core functionality, Google chose to deploy its engineering and machine resources to other projects that could increase publisher monetization or improve Google's product offerings in other ways. In addition, Google did not need to revise AdX's core functionality in order to facilitate real-time competition among multiple exchanges: Google's Open Bidding solution allowed it to achieve that same objective without having to spend the time and effort necessary to make such a radical change to AdX.

Dynamic Allocation

17. Before the introduction of Dynamic Allocation, publishers typically sold their inventory through a process known as "the Waterfall" in which a publisher would rank sequentially the ad exchanges and networks with which the publisher had a direct relationship. This ranking was generally based upon the prices that the publisher had established or estimated its remnant demand partners would generate for an ad impression. Google did not invent the Waterfall. Nor

⁴ This concept is sometimes described as "chaining" or "reselling."

did Google consider it to be a particularly effective solution; however, it was the best available method of allocating publisher inventory prior to the development of Dynamic Allocation, real-time bidding, and other display advertising innovations.

18. Dynamic Allocation was first launched as a new feature in DFP in 2007. Dynamic Allocation enabled publishers to determine in real time whether there were ad buyers willing to pay a price for a particular ad impression that was greater than what the publisher established or estimated its remnant demand partners would generate or than the fixed price the publisher had negotiated with remnant demand partners. Using Dynamic Allocation, DFP established a “floor price” for AdX bids to beat. DFP based that floor price on the highest price of any of the publisher’s eligible booked, static remnant line items (which a publisher could configure based on the estimated price of each remnant line item or a fixed price the publisher had negotiated with a particular remnant demand partner). AdX buyers would then submit real-time bids to try to beat this floor.

19. Up until at least December 2021, publishers could set the CPM for their booked static remnant line items (also referred to as “Value CPMs”) at whatever amount they chose.⁵ By configuring multiple line items with different targeting criteria, publishers could configure different Value CPMs based on, for example, time of day or the geography of the relevant user, even for the same demand partner. Some publishers set Value CPMs based on their estimates of what CPM a line item would likely generate (taking into account its historical performance) or based on a fixed price the publisher had negotiated with a particular remnant demand partner.

⁵ When configuring a remnant line item, a publisher must specify a rate (i.e., a price) for the line item. The publisher may also specify a “Value CPM”; this might be done when the price does not accurately reflect the value to the publisher of serving the line item. For example, if the publisher gave an advertiser a discount on a line item, the publisher could enter the discounted price as the rate and the undiscounted price as the Value CPM. If a publisher does not specify a Value CPM, then Google sets the Value CPM equal to the rate.

Some publishers set Value CPMs higher than their estimates of what CPM a line item would likely generate to increase competitive pressure in the AdX auction or for other reasons. Under Dynamic Allocation, the Value CPM associated with the best eligible non-guaranteed line item could set the floor price in the AdX auction.

20. From the launch of Dynamic Allocation in around 2007 until Google introduced Enhanced Dynamic Allocation in 2014, line items determined to be “guaranteed” on a request were always given priority and served first without considering bids from AdX, AdSense, or any line items determined to be “non-guaranteed” on that request.⁶ Prior to 2014, the operation of Dynamic Allocation depended on how a publisher configured its line items in DFP. DFP used different default prioritization rankings (from 1 to 16) for different line item types. Guaranteed line items (which include “Sponsorship” and “Standard” line items) were typically priority 1-10. AdX line items were typically priority 12 and competed with other line items at priority 12-16. If AdX and other remnant line items were at priority 12, and there was an eligible guaranteed line item at priority 1-11, then AdX was not called via Dynamic Allocation, and the best eligible guaranteed line item served. If there was no eligible line item at priority 1-11, then AdX was called via Dynamic Allocation. If AdX returned a bid with an effective CPM higher than the best eligible remnant line item’s CPM, the AdX ad won. If AdX returned a bid with a lower effective CPM, the best eligible remnant line item won.

21. Dynamic Allocation improved upon the Waterfall’s inefficiencies by introducing real-time bidding from AdX. But because other exchanges were not yet providing real-time bids, some inefficiency remained. Google did not take any action to prevent competing exchanges from submitting real-time bids to DFP. The exact mechanism that was later used by DFP to accept real-

⁶ On a particular request, a “standard” or “sponsorship” line item was determined to be “guaranteed” if the publisher has configured it with a higher priority than AdX, AdSense, and any remnant line item eligible on that request.

time bids from Header Bidding had already existed. As a result, once Header Bidding enabled third-party competing exchanges to submit real-time bids, Google did not have to make any changes to DFP to accommodate them.

22. Up until at least December 2021, publishers could configure DFP to have AdX compete at a static price, rather than a real-time bid via Dynamic Allocation.

Header Bidding

23. In about 2014, web publishers began to adopt Header Bidding. Publishers used Header Bidder by including code in their web pages that the browser “reads” to activate the process. When a user visits the publisher’s site, the Header Bidding code causes the browser to call participating ad exchanges or other demand partners (either directly or via a Header Bidding server) to submit bids for the inventory on that page. The Header Bidding code then runs an auction among those bids and determines a winner of that Header Bidding auction before Google’s ad server is called.⁷ These Header Bidding auctions are typically first-price auctions. After the conclusion of the Header Bidding auction, the publisher then typically passes information about the winning bid from the Header Bidding auction to Google’s ad server in real-time.⁸

24. Up until at least December 2021, as a result of the way that publishers typically configured Header Bidding line items to work with DFP, the winning bid from the Header Bidding auction would trigger a specific line item that the publisher had booked within Google’s ad server (most commonly a remnant line item⁹). As described above in paragraph 19, the Value CPM of that line item could represent the winning Header Bidding bid as a floor in the AdX auction (prior

⁷ This process describes client-side Header Bidding, which was the traditional form of Header Bidding that emerged around 2014.

⁸ Header Bidding can also be configured to pass multiple bids to Google’s publisher ad server.

⁹ Header Bidding line items were typically set up as “price priority” remnant line items, which represent non-guaranteed demand and compete within Google Ad Manager based on their prices.

to September 2019) or as a competing bid in the Unified First Price Auction (from September 2019 onwards). As noted in paragraph 19, the publisher set the Value CPM of that line item, and this Value CPM could be higher or lower than the amount that the publisher expected to receive from winner of the Header Bidding auction.

25. Google Ad Manager does not and cannot limit how many competing exchanges a publisher can connect to using Header Bidding. A publisher can work with any of the many dozens of competing exchanges. It is common for larger publishers to work with as many as six or seven different exchanges.

Interaction Between Header Bidding and Dynamic Allocation

26. Beginning around 2014 and up to at least December 2021, publishers often used Header Bidding and Dynamic Allocation together to put AdX in competition with remnant line items.

27. Based on the Dynamic Allocation process described above in paragraphs 18-20, a Header Bidding line item could compete for publisher inventory against bids from AdX and other remnant line items.

28. Google consistently has tried to provide buyers with as much accurate information as possible to help them bid effectively. For that reason, Google provides buyers integrated with Google Ad Manager—including third-party exchanges participating in Open Bidding—with information about the minimum price that they need to bid in order to have a chance of winning an impression. As described in paragraph 19 above, that minimum price could be set by the best eligible non-guaranteed line item, such as a Header Bidding line item.

29. The fact that AdX would be called after the header call has been characterized by some third parties as a “last look” for AdX. But “last look” was not designed to give AdX an

advantage when competing against Header Bidding. Instead, it was the result of the Header Bidding auction taking place before the AdX auction ran and the way that publishers configured Header Bidding line items to work with Dynamic Allocation.

Enhanced Dynamic Allocation

30. Before 2014, publishers with guaranteed delivery contracts faced the challenge of ensuring that they complied with contractual requirements to deliver impressions to specific advertisers without sacrificing revenue by allocating inventory to direct deals when indirect demand sources would pay more.

31. In March 2014, Enhanced Dynamic Allocation was introduced to allow remnant line items, AdX line items, and AdSense line items to compete simultaneously with the guaranteed line items while ensuring that the publisher met all of its contractual obligations regarding the delivery of guaranteed line items. The indirect demand source (e.g., AdX or a remnant line item) would be eligible to win the impression if EDA determined that the revenue to be derived from that indirect demand source was higher than the opportunity cost of not serving the guaranteed line item.

32. Up to at least December 2021, with Enhanced Dynamic Allocation, the ad server calculated what was known as a “temporary CPM” for a guaranteed deal. The temporary CPM took into account how much room the publisher had left to meet the agreed volume commitment and reflected the opportunity cost of not allocating the ad space to the guaranteed deal on that basis. The further behind schedule a guaranteed line item was, the higher the temporary CPM. Therefore, a guaranteed line item that was behind schedule would win more often, making it likely to satisfy its goal. DFP used past line item delivery information along with campaign goals to determine how frequently to serve a current line item to achieve its delivery goal.

33. If the pacing of the guaranteed line item required the associated ad to deliver in every possible instance in order to ensure that the publisher met its guaranteed obligations, the temporary CPM would become infinite, thereby ensuring it would win over any indirect demand source. As the guaranteed line item came closer to fulfilling its goal, the temporary CPM approached 0. When the guaranteed line item fulfilled its goal, it would no longer compete with candidates in the AdX auction.

34. Between the launch of Enhanced Dynamic Allocation in 2014 and the launch of the Unified First Price Auction in 2019,¹⁰ the floor price in AdX was the highest of: (i) the publisher-configured floor price; (ii) the Enhanced Dynamic Allocation price set dynamically based on a temporary CPM (the “EDA price”); (iii) the price of the remnant line item that was selected as a candidate for the impression; and (iv) the price determined by optimization.¹¹ Assuming for simplicity that (i) and (iv) are 0, if the highest effective AdX bid could beat both the EDA price and the price of the remnant line item that was selected as a candidate for the impression, then the ad associated with that AdX bid would win. If not, the guaranteed or remnant line item would win.

Open Bidding

35. Open Bidding is a feature of Google Ad Manager that was announced in April 2016 and became generally available in April 2018 (when it was initially referred to as “Exchange Bidding”).¹² Open Bidding was Google’s competitive response to the “auction of auctions” model introduced by Header Bidding. Some refer to Open Bidding as an example of “server-side Header Bidding”. It allows third party ad exchanges to compete with line items booked in Ad Manager

¹⁰ As described in paragraph 38, there was a brief period before Open Bidding became generally available when an Open Bidding bid could set the floor price in AdX.

¹¹ Google launched a feature to optimize a publisher’s floor prices in April 2015. Before April 2015, the price determined by optimization was not considered in setting the floor price in AdX.

¹² In mid-2019, Exchange Bidding for Ad Manager inventory rebranded as Open Bidding. For simplicity, I refer to it as Open Bidding throughout the remainder of this declaration.

(including Header Bidding line items) and with Authorized Buyers, DV360, and Google Ads in a real-time auction. Open Bidding allows publishers to invite third-party ad exchanges to submit bids with real-time prices using standard real-time bidding calls.

36. Open Bidding avoids the latency issues that publishers sometimes experience when trying to create the effect manually through self-implemented solutions (e.g. Header Bidding), as well as the transparency and privacy issues associated with Header Bidding. Most Header Bidding has traditionally taken place client-side, meaning the page sends out requests to individual ad exchanges and other demand sources, processes the responses, and then runs an auction, all via Javascript code running on the page. This may introduce latency issues and slow the pace at which the webpage or app loads for the user.

37. Since it became generally available in April 2018 and up to at least December 2021, Open Bidding operated as a first-price auction. During this period, prior to AdX's migration to a Unified First Price Auction, Google Ad Manager essentially ran two auctions for a specific ad impression when Open Bidding was available. First, a second-price, real-time bidding auction was run in AdX with bids submitted by Google Ads, DV360, and Authorized Buyers. Second, a first-price auction compared the winning price from the second-price AdX auction with bids from Open Bidding buyers.

38. Open Bidding was initially launched in alpha in 2016. Following the initial alpha launch of Open Bidding, Google removed AdX's "last look" over Open Bidding, by ensuring that the winning price from the AdX auction was compared to the highest bid from an Open Bidding buyer. Google removed this in response to customer feedback, before Open Bidding became generally available in April 2018.

39. Publishers that utilize Open Bidding must enter into agreements with the third-party ad exchanges they choose to work with. For any publishers that do not already have agreements with their chosen third-party ad exchanges, Google Ad Manager facilitates the process of entering these agreements. Approximately [REDACTED] third-party ad exchanges participate in Open Bidding, [REDACTED].

40. Up to at least December 2021, for publishers that utilized Open Bidding, when an auction was won by an Open Bidder, Google Ad Manager's standard charges for web display ads were [REDACTED] for GAM360 customers and [REDACTED] for other GAM customers, and Google's standard charges for app and instream video ads were [REDACTED].¹³ These fees cover Google's costs in running the Open Bidding program—including sending bid requests to participating exchanges, receiving bids, handling billing and payments, managing publisher relationships, and eliminating billing discrepancies. Open Bidding provided value to publishers in that it offered a simpler setup, including unified reporting and a single payment system.

41. Some at Google were initially concerned that Open Bidding would provide Google's competitors with direct access to our base of publisher customers. Despite that concern, Google invested significant resources in the Open Bidding product as it determined that Open Bidding provided value for Google's publisher customers.

42. Up to at least December 2021, publishers that did not want to pay the fees associated with Open Bidding could work with third-party ad exchanges via Header Bidding, for which Google does not charge any fees (other than DFP's standard ad-serving fees).

¹³ Open Bidding buyers that directly paid publishers were charged differently.

Dynamic Revenue Sharing

43. In August 2015, Google launched Dynamic Revenue Sharing (“DRS”), a sell-side optimization feature on AdX. Initially, DRS allowed Google to reduce or entirely forgo AdX’s revenue share in some auctions, enabling more transactions to proceed.

44. Google’s contracts with publishers specify how they will share revenue when AdX wins an impression. Up to at least December 2021, Google’s standard rate was 20% of the price paid by the buyer in the AdX open auction; the remaining 80% was the standard revenue share for publishers. Prior to DRS, a publisher would receive the same, fixed revenue share on each impression that AdX won. With DRS, the AdX revenue share could change on a per-impression basis, as long as each publisher received at least their agreed-upon share of the revenue in aggregate over the contractual billing period.

45. Google rolled out DRS in three successive versions—DRS v1, DRS v2, and truthful DRS (tDRS)—each of which replaced the former version and added distinct features.

46. DRS v1, launched in August 2015, adjusted Google’s share of AdX revenue only downward, so that the net bid (i.e., the bid submitted by the buyer minus the AdX revenue share) would be able to clear the AdX reserve price. In this initial version of DRS, the minimum revenue share applied was ■■■ and the maximum revenue share applied was ■■■. AdX probabilistically “throttled” (i.e., disabled) the application of DRS on some queries to ensure that, on average, Google maintained a revenue share of at least ■■■ for each AdX buyer and for each publisher (assuming AdX’s standard revenue share of ■■■ for open auction).

47. DRS v1 only applied when no AdX bid (net of AdX’s revenue share) was above the reserve price. All versions of DRS applied in the same way whether the applicable AdX reserve price was set by a publisher-configured floor, the EDA price, or the price of a remnant line item.

In most cases when DRS applied, the reserve price was set by the publisher-set floor price. In this situation where the highest bid would not meet the publisher-set floor price if Google took its full revenue share (and the transaction would therefore not happen at all), DRS allowed Google to forgo its full revenue share in order to enable the transaction to proceed and the publisher to be paid.

48. In the second version of DRS (launched in December 2016), Google could still lower AdX's revenue share, but could also increase its revenue share in a subsequent AdX auction, if the bids were significantly higher and well in excess of the floor price. In DRS v2, the minimum revenue share applied was [REDACTED] and the maximum revenue share applied was [REDACTED], but the objective was to bring the average revenue share closer to [REDACTED] (or the publisher's contractually agreed average revenue share) without ever exceeding that contractually agreed share. Prior to launching DRS v2, Google conducted experiments to confirm that DRS v2 would accomplish the intended goal of benefitting publishers and allowing impressions to be sold that otherwise would not have been sold. A condition of launching DRS v2 was that it accomplish these benefits as opposed to solely shifting transactions from remnant line items (including Header Bidding line items) to AdX.

49. The changes in DRSv2 made the feature more sustainable because Google had seen that otherwise publishers could raise floors and buyers could lower bids such that Google would no longer be able to offer DRS.

50. Beginning with DRS v2, AdX publishers could opt out of using DRS.

51. While DRS v1 and DRS v2 adjusted AdX's revenue share after receiving buyers' bids, tDRS, which launched in July 2018, adjusted AdX's revenue share before sending bid requests to AdX buyers. If tDRS predicted that a buyer would bid above the AdX floor price for an impression (unless that floor price was determined by Google's Reserve Price Optimization

program), then Google would take a 20% revenue share for that impression.¹⁴ If tDRS predicted that the buyer's bid was likely to be below the floor price, Google took a 0% revenue share. If tDRS predicted that a buyer would bid above the AdX floor for an impression and that floor price was determined by Google's Reserve Price Optimization program, then Google would apply a 20% revenue share to determine the price floor for the AdX auction but take an additional revenue share to make up for reduced revenue on other impressions.

52. DRS was discontinued in September 2019, following Google's launch of the Unified First Price Auction.

Unified First Price Auction

53. Since September 2019, the auction mechanism used by Google Ad Manager (in its role as an ad exchange through AdX) has been a unified "first-price" auction ("Unified First Price Auction"). The Unified First Price Auction compares the bids that the publisher has obtained for its inventory via a range of different channels at the same time. This includes bids from Google Ads, DV360, third-party Authorized Buyers, Open Bidding, and non-guaranteed line items (including bids from third-party exchanges submitted via Header Bidding).

54. Following the transition to the Unified First Price Auction and up to at least December 2021, the floor price was no longer set by reference to remnant line items.¹⁵ Instead, the floor price was the highest of: (i) the publisher-configured floor price; (ii) the EDA price; and (iii) the price determined by optimization. If no bid in the Unified First Price Auction exceeded the reserve price, then a guaranteed line item or a house ad would be served (if available) or no ad would be served.

¹⁴ The predictions made by tDRS about whether to adjust AdX's revenue share were based on historical bidding data.

¹⁵ As a result of this change, AdX no longer has what some parties have described as a "last look" over line items representing bids from exchanges and ad networks participating in Header Bidding.

55. Up to at least December 2021, the ranking of bids in the Unified First Price Auction worked as follows: (a) After the bids were received, the candidates were filtered for eligibility based on settings specified by a publisher: for example, some bids could be filtered out due to buyer blocks or a buyer's failure to meet the reserve price; (b) Once the list of eligible bids was determined, the Unified First Price Auction then ranked the bids based on net CPM. Google's Unified First Price Auction used net, rather than gross, revenue as it ran the auction on behalf of publishers and therefore was focused on maximizing the revenue the publisher received, rather than revenues paid by the advertiser. To be clear, net CPM reflected the expected payment to the publisher after subtracting fees that Google charged and applying optimizations to increase the revenue to the publisher; and (c) The CPM-based ranking could be overridden by publisher choice. A publisher might, for example, have had a preferred deal where the publisher had arranged for a buyer to have priority regardless of price. In the Unified First Price Auction, the buyer with the highest net bid won the auction, subject to this ranking criteria, and paid the amount it bid.

Unified Pricing Rules

56. Pricing rules are defined by a publisher in order to set auction reserve prices: a publisher can specify certain criteria and a reserve price for auctions when those criteria are met. Google implemented Unified Pricing Rules (sometimes referred to as "Uniform Pricing Rules" or "UPR") in May 2019. Before Unified Pricing Rules, publishers could set reserve prices in AdX for specific buyers (e.g., Google Ads, DV360, third-party DSPs and ad networks), and AdX would filter bids that did not exceed the reserve price applicable to the buyer. However, publishers were unable to use the Google Ad Manager user interface to set pricing floors for Open Bidding partners and other indirect sources of demand trafficked through non-guaranteed line items. Instead,

publishers had to undertake the complex and time-consuming task of configuring pricing floors separately on each exchange and network where their inventory was available.

57. Google introduced Unified Pricing Rules as part of Google Ad Manager's move to a Unified First Price Auction in September 2019.

58. Floor prices function differently in first-price and second-price auctions. In a second-price auction, the floor price can affect the amounts that the buyer pays and the seller gets paid. As described above in paragraph 11, in a first-price auction, the buyer with the highest bid wins the auction, and pays the amount they bid; if the winning bid is above the floor price, the bidder pays the same amount—and the seller is paid the same amount—regardless of the floor.

59. Before Google implemented Unified Pricing Rules, buyers bidding across different channels could face different floor prices for the same impression, leading to the possibility of self-competition and making bidding across platforms more complex.

60. With the introduction of Unified Pricing Rules, publishers gained the ability to configure and manage pricing floors that apply to Google Ads, DV360, other Authorized Buyers, Open Bidding partners, and non-guaranteed line items, all from a single user interface in Google Ad Manager. The pricing rules were “unified” because Google Ad Manager did not allow the publisher to set different pricing rules for different buyers as part of a bid request, i.e. the rules were applied equally across all buyers.¹⁶ Under Unified Pricing Rules, buyers' net bids faced the same reserve prices in the Unified First Price Auction across different buying channels.

61. Under the Unified Pricing Rules, publishers could not use Google Ad Manager to set different price floors for different buyers, but publishers were able to set different floors for specific advertisers, brands, ad sizes, categories and more (or otherwise set a floor for everything).

¹⁶ As a result, the price floors from Unified Pricing Rules could not be set lower on AdX than other exchanges.

In addition, publishers could continue to set different price floors for different ad exchanges using the tools made available by other ad exchanges, and these price floors would be applied by those other exchanges in addition to the price floors from Unified Pricing Rules.

AdX Direct

62. Publishers using third-party publisher ad servers or in-house ad servers can access real-time demand from AdX using AdX Direct. AdX Direct has existed since at least the time that Google acquired AdX from DoubleClick in 2008.


63. To access AdX using AdX Direct, publishers place ad tags on their websites or in apps (“properties”). Ad tags are snippets of code that contain the details of the size, format, and other requirements of the ad unit. When a user visits the publisher’s property, the ad tag calls AdX to return an ad meeting these requirements. For publishers using a third-party publisher ad server or an in-house ad server, when a user visits the publisher’s property, an ad tag calls the publisher’s ad server, and that ad server would then go through its ad selection logic and, if it chooses, call AdX Direct with an appropriate reserve price via the AdX Direct tag.

64. As with AdX ads returned to DFP publishers, the ads returned by AdX Direct are determined through auctions that compare bids submitted to AdX in real-time by Google Ads, DV360, and third-party Authorized Buyers.

65. There are no planned changes to the way that third-party publisher ad servers or in-house ad servers can access real-time demand from AdX using AdX Direct.

66. I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 15th day of November 2024, in New York, New York.



Nitish Korula